

PreCalculus with Trigonometry Final Exam Review

Evaluate $\lim_{x \rightarrow \infty} \frac{7x - 2}{3x + 8}$

Simplify this expression $\log_5 2 - \log_5 50$

Evaluate the function at the specified value of the independent variable and simplify.

$$f(x) = 9x^2 - \sqrt{9x} ; f(5)$$

Expand the expression using addition and subtraction, that is equivalent to the given logarithmic expression.

$$\log_b \sqrt{\frac{55}{16}}$$

Simplify the function at the specified value of the independent variable.

$$g(x) = \frac{x^2 - 3}{3x} ; g(n + 2)$$

Graph the function.

$$f(x) = \begin{cases} \sqrt{x} + 1, & x \geq 0 \\ -3x + 2 & x < 0 \end{cases}$$

Find the inverse of $f(x) = (x + 7)^3 + 3$

.Divide $(4x^3 + 16x^2 + 19x + 6) \div (2x + 3)$

.Find the horizontal asymptote(s), if any, of the graph of $f(x) = \frac{3}{x-9}$

. Find the vertical asymptote(s), if any, for $f(x) = \frac{5x+7}{x^2+3x-28}$

Find the value of x: $\log_3(x + 2) - \log_3 x = 4$

Using laws of exponents, solve for A: $4 \cdot 3^{(x-2)} = A \cdot 3^x$

Solve the equation: $\frac{5x+3}{2} + \frac{5x-3}{5} = -\frac{1}{4}$

Solve the equation: $3x^2 - 14x - 5 = 0$

Determine whether the power function is even, odd, or neither $f(x) = 3x^{\frac{3}{5}}$

Describe how the graph of $y = x^2$ can be transformed to $y = (x + 2)^2 - 7$.

Give the equation of the graph of $f(x) = 6\sqrt{x+2} + 5$, reflected across the x-axis.

Write $y = x^2 + 8x + 7$ in vertex form

Write the statement as a power function equation. Use k as the constant of variation.

The height h of a triangle with a fixed area varies inversely as the base b .

Expand the binomial: $(2x + 3)^5$

Find the coefficient of the given term in the binomial expansion: $x^8 y^6$ term, $(x + y)^{14}$

Determine the intervals on which a function is increasing, and decreasing.

$$f(-6)$$

$$\lim_{x \rightarrow -6^-} f(x)$$

$$\lim_{x \rightarrow 3} f(x)$$

$$f(7)$$

$$\lim_{x \rightarrow 7} f(x)$$

f. $\lim_{x \rightarrow \infty} f(x)$

g. $\lim_{x \rightarrow -\infty} f(x)$

